

Traversing the boundaries between science and policy: finding *Pathways* for place-based community planning

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Keywords: planning, decision-support tools, community engagement, sustainability, science policy

Extended Abstract:

Increasingly, there is a demand to incorporate concepts of sustainability and smart growth into planning and policy development activities. In practice, however, it can prove quite challenging to bridge the intent of sustainability into action. 'Place-based planning' is an emerging field of research and practice that addresses the gap between intent and action through proactive decision making, civic involvement and tools that support community design and decision making. Often, it is not always evident how to best take advantage of existing scientific knowledge to craft policies that resonate and reinforce the objectives of local communities (Tansey et al. 2004). In our work, we incorporate expert and local knowledge, 'what-if' scenario modelling, and landscape visualization as part of a place-based planning approach.

The *Pathways Project* (http://scki.nrcan.gc.ca/path/index_e.php) is an initiative of Natural Resources Canada (Earth Sciences Sector). It aims to promote, facilitate and evaluate the use of public geoscience knowledge and decision support tools for planning. Working with community partners in British Columbia, we have developed an integrated decision support framework to promote the uptake and use of geoscience knowledge in planning initiatives, including Official Community Plan reviews, hazard-vulnerability-risk assessments and for resource management and regional growth strategies. In conjunction with our science programs, we address land use planning concerns related to natural hazards (near Squamish, BC) and groundwater vulnerability in the Gulf Islands and Okanagan regions of the province. In this session, we will showcase our approach through a synopsis of our groundwater activities with Georgia Basin communities.

The Georgia Basin is home to the urban centres of Vancouver and Victoria, and is one of the most densely populated and fastest growing bioregions in Canada. With a population growth rate of thirty-five percent, it is anticipated that the region will swell to approximately four million people by the year 2020 (Georgia Basin-Puget Sound Ecosystem Indicators Report, 2002). Over this same time period, it is estimated that regional impacts of global climate change will likely reduce surface water supplies and rates of recharge, thereby placing increasing demands on available groundwater resources. These trends underscore the need for tighter coupling between ongoing scientific research, land use planning and water management strategies if we are to collectively maintain and protect renewable groundwater resources that will be required to balance competing economic, environmental and human needs in the region (Journeay et al. 2004).

The Pathways approach consists of a three-part framework that relies on principles of collaborative decision making to integrate geoscience knowledge with short and long-term planning and policy activities identified by local and regional agencies responsible for water resource management in the Okanagan and Gulf Islands regions of the province (Carmichael et al. 2005). We make use of 'what-if' scenario modelling and landscape visualization tools to assist community and regional district level planners in evaluating the potential impacts of alternate growth strategies on available groundwater resources in the region. The scenario models incorporate the outputs of aquifer characterization and watershed modelling studies carried out by research partners. In addition, Pathways provides a framework for assessing the consequences of land use decisions with respect to aquifer vulnerability (quality) and sustainable yield (quantity) of groundwater resources. Pathways capitalizes on emerging information technologies to create collaborative decision environments where project members and community partners can exchange knowledge and manage information relevant to both the resource assessment and vulnerability assessments on an on-going basis. These collaboration technologies facilitate the management, sharing and use of data, knowledge and modelling results among research partners and end users.

The session will provide a synopsis of our work with the Islands Trust where we are working together with municipal planners to incorporate our groundwater susceptibility modelling results with the community's process of

reviewing their Official Community Plan to address the issues of land allocation and sustainable water resource management for island communities.

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Tansey, J., J.M. Journeay, S. Talwar, J. Robinson, and B. Brodaric. 2004. Navigating Pathways between Science and Policy. *Horizons*, **6(4)**: 70-73.